

8.1 INTRODUCTION

Continuing discussions between the FAA and the airport sponsor have resulted in mutually agreed upon refinements to the alternatives that were analyzed in this technical report. These refinements are designed to enhance the safe and efficient operation of the airport by reducing runway crossings and the potential for inadvertent runway incursions. The FAA has identified reducing runway incursions as one of its major initiatives to enhance airport safety and efficiency. The refinements include relocation of proposed runway thresholds, addition and redesign of taxiways, and increases in runway-taxiway separation. The changes for each runway alternative are listed in the [Section 8.2](#) below, and are illustrated on three separate figures provided by the airport sponsor that are presented at the end of this section.

The airport sponsor has also made recent changes to the plan for disposal of Young Bay Mud excavated for construction of the proposed runway reconfiguration. These changes are described in [Section 8.3](#) below.

8.2 REFINEMENTS OF RUNWAY ALTERNATIVES

8.2.1 Alternative A3-AR

The changes to Alternative A3-AR include the following:

- The Runway 1R and 1 L thresholds have been relocated, 629 feet and 70 feet to the north, respectively.
- The Runway 28R taxiway has been extended to the first high-speed exit.
- Dual egress and ingress to Runway 28R has been provided.
- A dual Taxiway F bypass has been added.
- Taxiway C has been reduced to avoid impact to the U.S. Coast Guard facility.

These changes are illustrated on [Figure 8-1](#).

8.2.2 Alternative BX-6

The changes to Alternative BX-6 include the following:

- Runway 28R has been moved 200 feet to the east to resolve a conflict with Runway 10L.
- The Runway 28R taxiway has been extended to the first high-speed exit.
- A dual Taxiway F bypass has been added.
- The runway-taxiway separation for Runway 19R has been increased by 30 feet to the west and the runway-taxiway separation for Runway 19L has been increased by 100 feet to the west.
- Taxiway C has been reduced to avoid impact to the U.S. Coast Guard facility.

These changes are illustrated on [Figure 8-2](#).

8.2.3 Alternative BX-R

The changes to Alternative BX-R include the following:

- Runway 28R has been moved 200 feet to the east to resolve a conflict with Runway 10L.
- Taxiway C has been reduced to avoid impact to the U.S. Coast Guard facility.

These changes are illustrated on [Figure 8-3](#).

8.3 CHANGES TO DREDGED MATERIAL DISPOSAL STRATEGY

The potential water quality impacts of placing excavated Young Bay Mud into the East Bay Shoals borrow site are reported in [Section 5.3.1](#) of this technical report. As a result of these evaluations, the airport sponsor has decided to revise the disposal plan to avoid placing this material into the borrow site. Alternative strategies for placement and reuse of excavated Young Bay Mud are currently under evaluation by the airport sponsor.

8.4 PHYSICAL CHANGES RESULTING FROM PROJECT REFINEMENTS

The refinements of the alternatives would result in changes to a number of the physical dimensions of the alternatives, and to the required volumes of borrow material, fill material, and dredged material to be placed off site. Several changes to the alternatives are summarized in [Table 8-1](#). The changes in platform area are greatest for those alternatives with the smallest previous footprint (A3-AR) and least for the alternatives with the largest footprint (BX-R). Some dimensions, such as the access channel areas, are not affected by the refinements.

8.5 IMPLICATIONS FOR IMPACT EVALUATIONS

8.5.1 Hydrology and Sediment Transport

The changes in the physical dimensions of the runway alternatives are within the resolution of the models used in these analyses. Therefore, it is not expected that these changes would result in changes to predicted long-term project impacts.

The scenario of placing no Young Bay Mud back into the East Bay Shoals borrow site has already been evaluated as part of these studies, and is reported in [Section 5.3.1](#) of this report. This scenario would result in the East Bay Shoals borrow site acting as a sediment sink for a longer period as the site filled back in naturally.

8.5.2 Water Quality

The changes in the physical dimensions of the runway alternatives are within the resolution of the models used in these analyses. Therefore, these changes would not be expected to result in changes to the predicted long-term project impacts.

The decision not to place Young Bay Mud into the East Bay Shoals borrow site has two key impacts with regard to water quality. First, placement of these sediments into an open-water environment would likely be avoided in favor of placement into more confined environments. Second, due to the longer distances to alternative placement sites it is likely that the projected use of hydraulic dredges would be replaced by the use of clamshell dredges and scows. Both of these changes would result in substantially reduced sediment plumes associated with the construction activities. Evaluation of the impact of such a reduced plume on water quality will require additional numerical analysis, but is expected to reduce predicted project effects on water quality.

8.5.3 Biological Communities

The changes in the physical dimensions of the runway alternatives would result in direct commensurate changes in the acreage of biological habitat that would be affected. All of the changes would occur in subtidal bottoms of varying depths.

The scenario of placing no Young Bay Mud back into the East Bay Shoals borrow site has already been evaluated as part of these studies, and is reported in [Sections 6.2.2](#), [6.2.4](#), and [6.2.5](#) of this report. The benthic community recovery within the borrow site would be influenced by the fact that, at least initially, the substrate would be more dominated by sand, and would be at a greater depth.

Borrow operations at the East Bay Shoals for Alternatives A3 (fill), BX-6, and BX-R would convert between 185 and 433 hectares of shallow Bay habitat to deep Bay habitat, making this area no longer suitable for foraging by diving ducks. This area represents 0.3 to 0.6 percent of such habitat in San Francisco Bay, and would potentially affect from 0.1 to 0.3 percent of the scaup population and 0.2 to 0.6 percent of the surf scoter population. These areas would eventually fill back in over time, but at a slower rate than if the borrow site were backfilled with Young Bay Mud.

8.6 FURTHER ANALYSIS

These refined alternatives and changes will be fully assessed as part of the EIS and EIR processes. The same scientific and modeling methods reported in this technical report will be utilized in further analyses as appropriate. The results of such additional analyses will be reported in an addendum to this report, or in a separate technical report. The same approach will be applied to other changes to the proposed project that may be identified and selected for study as the planning and environmental evaluation processes go forward.